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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL CHOI

Appeal No. 2010-000764
Application No. 10/683,600
Technology Center 3700

Oral Hearing Held: November 10, 2011

Before KEN B. BARRETT, GAY ANN SPAHN and MICHAEL C. ASTORINO, *Administrative Patent Judges.*

APPEARANCES:

ON BEHALF OF THE APPELLANT:

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The above-entitled matter came on for hearing on Thursday, November 10, 2011, commencing at 9:07 a.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Dawn A. Brown, Notary Public.

P R O C E E D I N G S

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THE USHER: Calendar Number 31, Appeal Number 2010-000764. Ms. Kanjilal.

JUDGE BARRETT: Good morning.

MS. KANJILAL: Good morning. My name is Suparna Kanjilal. Our application relates to method of operating a climate control system in a passenger vehicle. And our methods are directed to reducing noise that can be generated in the ducting of the climate control system.

Our inventors have recognized that in modern-day vehicles, the space that is available outside the passenger compartment is at a premium. And so the ducting has to be -- involves a lot of bends and discontinuities. And because of all these bends and discontinuities, then the air flows through these bends and discontinuities and it generates noise that can be bothersome for the passenger in the compartment.

And to get around this problem, our claim is directed to a method of directing a flow of air into the compartment of the vehicle where it goes through a duct that has radial vanes. And the vanes are positioned specifically upstream of the bend and downstream of a blower.

The primary reference that has been cited against us is Zarnick. Zarnick relates to a duct silencer for building ductwork. And the reference has been combined with Kawanishi, which relates to active noise cancellation system in a duct with a microphone and a loudspeaker.

The Examiner has provided no explanation as to how these references alone are combined which show directing a flow of air into the passenger compartment of the vehicle.

The -- Zarnick is related to building ductwork, and there is no citation -- no mention of a passenger compartment of a vehicle. Kawanishi does not explain where the duct would be used. And so even when combined, there is no directing of a flow to the compartment of a passenger vehicle, and there is no explicit explanation by the Examiner as to how it would be obvious or why it would be obvious.

On the contrary, we contend that it would not be obvious because somebody who is trying to figure out ducting for a vehicle system where there is limited space, and not only are there special constraints, there might be weight constraints because you don't want to affect the aerodynamics and the fuel economy of the vehicle, would not look to building ductwork where there is ample space, there is no limitation on either space or weight. So it wouldn't be very obvious.

Not only has the Examiner not provided any explicit explanation as to why it would be obvious, but the Examiner has then further ignored the directing of a flow to a passenger compartment saying its intended use and has just read out the limitation.

And we feel the limitation should not be read out because it is very much in the claim. It is the first sentence in the claim. It is in the body of the claim.

And the passenger compartment in the vehicle is part of the problem. It is because ducting in vehicle system -- that is what we discuss in the background of our Specification is that it is in this location that the ducting has all these bends and discontinuities. And that is where the problem is arising, and that is what we are addressing by directing the flow to the compartment via a duct with radial vanes.

The Examiner has further said that -- has applied the theory of inherency stating that the device of Zarnick would inherently perform the same function. However, for the theory of inherency to apply, the normal and usual operation of that device should be to direct -- to perform the method step involved, which is directing a flow of air to -- via duct to a compartment of a vehicle, and Zarnick's ductwork would not do that, and Kawanishi's active noise cancellation system would not be under normal operation directing air to a passenger compartment of a vehicle.

The other combination of references has been Zarnick with Choi, wherein Choi relates to a set of radial vanes that are applied in the ducting of an engine intake system that is leading into the engine intake manifold to reduce noise that is caused due to a valve. Choi discusses butterfly valves, which when they are made of plastic can cause more noise and he is addressing that problem.

So there is also no explanation of directing air to a passenger compartment of a vehicle in Choi because that is an engine intake manifold, and there has been no explanation as to why it would be obvious to combine the building duct of Zarnick with the engine intake system of Choi and that combination then modified to provide the passenger compartment -- directing of air to the passenger compartment of a vehicle.

Likewise, there is no explanation as to why the building ductwork of Zarnick with the microphone and speaker-based noise -- active-noise cancellation system of Kawanishi would somehow be combined and it would be obvious to now direct air into the passenger compartment of a vehicle.

That is our main contentions with the independent claim, claim 14.

And then with reference to dependent claim 20, our claim for the limits set to where the vanes protrude partially into said duct and do not span across said duct. The vanes of Zarnick spread across the duct and he has a rectangular square duct.

The vanes of Choi, it is a radial duct, and they partially span the duct. And that is because for Choi, he is directing air into the engine intake manifold downstream of a throttle, and he doesn't want to -- he wants to reduce noise but without restricting air flow because it is towards the engine intake.

There is no explanation as to why you would apply that radial vane in the radial duct of Choi, which is partially across to prevent flow restriction, to the engine intake manifold and the building ductwork, which is rectangular for Zarnick. So those are our main contentions with this.

So I said, we feel that none of the references provide any basis -- explanation as to why -- how you would -- why it would be obvious or how you would finally arrive at directing a flow of air into the compartment -- into the passenger compartment of a vehicle. And that even with the intended use, the passenger -- the directing of air limitation cannot be taken out from our claim and must be given importance because it is the problem that we're dealing with is that area.

And so that is what we are addressing by directing the flow of air to the compartment, to the duct, which has the vanes -- which is the radial vanes.

JUDGE SPAHN: I just have one question. In the Examiner's first rejection of Zarnick in view of Kawanishi.

MS. KANJILAL: Yes.

JUDGE SPAHN: On the bottom of page 3 to the top of page 4 is where he is addressing your -- your step of directing an airflow -- the flow of air to a passenger compartment of a vehicle via a duct.

And the Examiner says, in regard to directing the air to a passenger compartment of a vehicle, Zarnick discloses the noise reduction at the downstream of the blower of the air-conditioning unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide this noise-reduction device in an air-conditioning unit of a vehicle.

And I'm just wondering, I heard, you know, in the beginning you said that because of the size constraints, that one ordinary skill in the art would not look to Zarnick. But I'm just wondering why. I mean, both of them are reducing noise in a duct.

MS. KANJILAL: But Zarnick also discusses that he is reducing noise that is transferred between rooms because of the duct that is in the building. It is building ductwork.

Zarnick does not make any mention about the need to address noise from multiple bends or that his ductwork is actually even addressing the issue of, you know, presence of a lot of bends, highly convoluted -- with multiple bends and discontinuities.

Ours is actually related to that problem in that there are a lot of bends in this work where this -- all the ducting has to be outside of the passenger compartment, and it has to be incorporated there with other vehicle system components. So you're limited by the amount of space.

And so now you have to bend your duct. That is causing a lot of turbulence in air flow, and that is being addressed by directing the air to the compartment of the vehicle via a duct that has radial vanes.

So the -- it would not be obvious for someone -- it is not just a matter of size. It is a matter of the presence of bends. So somebody who is looking to do a vehicle ducting is probably not going to be looking at a building ductwork which has -- it is expansive and it can -- you know, there is not necessarily going to have a lot of bends and have to address the same issues as you are going to be addressing in a vehicle system.

JUDGE SPAHN: Okay.

JUDGE BARRETT: I think we understand your arguments. Do you have anything further?

MS. KANJILAL: No, that is it.

JUDGE BARRETT: Well, thank you.

MS. KANJILAL: Thank you very much.

(Whereupon, the proceedings at 9:17 a.m. were concluded.)